Application No. 09/749,059

attritors such as media mills, jet mills, hammer mills, or similar devices. An example of a suitable hammer mill is an Alpine RTM Hammer Mill™. Such a hammer mill is capable of reducing typical toner particles to a size of about 10 microns to about 30 microns. For color toners, toner particle sizes may average within an even smaller range of 4-10 microns.

Please substitute the following amended paragraph for the pending paragraph beginning on page 7, line 21:

After classification, the next typical process is a high speed blending process wherein surface additive particles are mixed with the classified toner particles within a high speed blender. These additives include but are not limited to stabilizers, waxes, flow agents, other toners and charge control additives. Specific additives suitable for use in toners include fumed silica, silicon derivatives such as Aerosil.RTM. R972™, available from Degussa, Inc., ferric oxide, hydroxy terminated polyethylenes such as Unilin RTM.™, polyolefin waxes, which preferably are low molecular weight materials, including those with a molecular weight of from about 1,000 to about 20,000, and including polyethylenes and polypropylenes, polymethylmethacrylate, zinc stearate, chromium oxide, aluminum oxide, titanium oxide, stearic acid, and polyvinylidene fluorides such as Kynar™. In aggregate these additives are typically present in amounts of from about 0.1 to about 1 percent by weight of toner particles. More specifically, zinc stearate shall preferably be present in an amount of from about 0.4 to about 0.6 weight percent. Similar amounts of Aerosi.RTM.™ is preferred. For proper attachment and functionality, typical additive particle sizes range from 5 nanometers to 50 nanometers. Some newer toners require a greater number of additive particles than prior toners as well as a greater proportion of additives in the 25-50 nanometer range. When combined with smaller toner particle sizes required by color toners, the increased size and coverage of additive particles for some color toners creates increased need for high intensity blending.

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Please substitute the following amended paragraph for the pending paragraph beginning on page 12, line 25:

Accordingly, a blending tool 50 of the present invention is shown in Figure 3 inside of a vessel 10 that is similar to that shown in Figure 1. Center shank 51 contains locking fixture 52 at its middle for mounting onto rotating drive shaft 14 (not shown) of the blending machine 2 (not shown). As shown in Figure 3, an enlarged collision element comprises collision anvil 55 that is proportionately larger than the collision surface of blending tools of the prior art such as that shown in Figure 2. In conventional tools, as discussed above, enlarged collision surfaces are not practical because a large collision surface creates too much "snow plow" compaction in front of the tool and vortices and relative voids in the wake of the tool. To overcome these impediments, a novel feature of the present invention is an enlarged collision element such as collision anvil 55 with cross-sectional perimeters of its leeward surfaces that decrease as such cross-sections are measured closer to the trailing edge of the tool, i.e., its sides and/or top and bottom surfaces tend towards convergence toward the trailing edge. This "convexly negatively sloped" of the leeward surface increases intensity since particles that are pushed upward or sideways upon contact with the collision anvil slide along the leeward slope of the tool to fill its wake as the tool slides through the particle mixture. Although the actual movements of particles within a blending machine requires complex 3-dimensional analysis, it is believed that an arcurate shape best accomplishes the above design since it causes collision anvil 55 to function much like an air foil in a gas fluid. In other words, the particle media through which the blending tool moves acts like a fluid as it is mixed by the tool. As with an air foil, the sloping leeward shape helps minimize voids and turbulence behind the tool. The result is greater particle density available for collision by the next arm of the tool as it sweeps through the blending zone. Greater density of particles leads to greater intensity (collisions/unit of time). Additionally, as noted above, the rounded shape of the leading profile of collision anvil 55 results in more flow of particles over the tool and less "snow plow"

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